MWD

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Introduction:-

Microwave diathermy can be defined as the use of microwaves for various therapeutic purposes. Microwave diathermy has a much higher frequency and a shorter wavelength than short wave diathermy.

The frequency and wavelength ranges from 300 MHz to 300 GHz and 1 cm to 1 m. The commonly used frequencies are 2456, 915 and 433.92 MHz with wavelengths of 12.24 , 32.79 and 69 cm respectively.

Production of Microwave:-

The microwave diathermy apparatus is connected to main AC which provides it a current of 50 Hz and a

voltage of 220 volts .

It is not possible to produce microwaves by mechanical means and hence a special type of thermionic valve is used which is called a magnetron.

The primary function of a magnetron is to produce high frequency current required for the production of microwaves.

Magnetron is a special type of thermionic valve characterized by centrally placed cathode and a surrounding circular metal anode. Coaxial cable carries these high frequency currents from the magnetron and passes it to the antenna of the emitter.

Emitter is also known as director or applicator. Emitter consists of antenna and reflector. Antenna is mounted in front of a metal reflector. Reflector is a metal plate which directs the microwaves in only one direction.

Emitters are of various size and shapes. Basically emitters are either circular in shape or rectangular shape.

The distance between the emitter and the skin should be about 10–20 cm from the body.

However, this can vary according to the size of the emitter, the part to be treated and the condition of the patient.

If a small area is to be treated, emitter should be closer to the skin (around 2–5 cm). If the area to be treated is larger, the distance can be increased to around 10–15 cm.

Physiological and Therapeutic Effects:-

Physiological and therapeutic effects of microwave diathermy are same as that of short wave diathermy

Dangers:-

* Burns

*Dangers to hearing aids

* Danger to cardiac pacemakers

Contraindication:-

*Metal in the tissue

*Eyes

*Circulatory defects

*Menstruation

*Pregnancy

*Tumors

*Deep X-ray or cobalt therapy

* Patient at particular risk

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